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(54) **REGISTER PROTECTIVE METHOD FOR  
PROCESSOR**

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(57) Abstract:

**PROBLEM TO BE SOLVED:** To reduce the saving of a register content in memory and the return from the memory at the time of subroutine call return when software that accompanies a hierarchical subroutine call is carried out in a processor that executes an instruction.

**SOLUTION:** A set of registers that is not allowed to destroy contents because it is used by a routine of an upper hierarchy, i.e., the information of a set of the registers to be protected is propagated to a current routine and a set of registers that save contents in the memory is decided (step 1) based on the information of the set of registers to be protected and the information of a set of registers which are used by a current routine when a subroutine is called. Also, while the information of the set of the registers to be protected are updated (step 2) and saved, it is possible to inherit and propagate it to subroutines of all kinds of hierarchies.

